Forest Insect Conditions
on the Salmon National Forest
1969

This is a discussion of the most important forest insect problems on the Salmon National Forest during 1969. Material for this report was assembled from aerial survey data, from on-the-ground investigations, and from special spruce budworm evaluation surveys.

Briefly, the only two important insect problems on the Forest are the Douglas-fir beetle and spruce budworm. The Douglas-fir beetle maintained a relatively high level of tree killing for the second straight year. The infestation centers are so widespread that any attempt at control would be unsuccessful. Maintaining conditions unsuitable to beetle buildup in existing sale areas will minimize hazard locally, but will not affect the overall population trend. Spruce budworm feeding remained light for the third consecutive year with little change anticipated for 1970. These and other insect problems are shown on the Forest's copy of the aerial survey map. A more complete discussion of these insect problems follows:

Douglas-fir beetle, Dendroctonus pseudotsugae Hopk.

Both the intensity and extent of Douglas-fir beetle damage as recorded by aerial observers in 1969 showed little change from that detected in 1968. Groups of dead trees are still scattered throughout the entire Forest with the heaviest concentrations persisting in the northern and southern portions. Unfortunately, like last year, most of this mortality is in steep, inaccessible and inoperable terrain where there is no chance of direct control, much less salvage. Corn Creek, Bear Basin Creek, the large roadless area west of the Middle Fork of the Salmon River, portions of Yellowjacket Creek, and Big Hat Creek are all areas in this category.

The present infestation is part of a general Douglas-fir beetle resurgence throughout the Douglas-fir, true fir stands in southern Idaho. Increases of even greater proportions occurred on the Boise and Payette Forests and to a lesser extent, on the Sawtooth and Challis Forests. Whether the same factors (1964 - 1965 windthrow and snowbreak) that are believed to have triggered off these outbreaks are responsible for the Salmon infestation, or whether it is of local and more recent orgin is unknown. In any event, damaging losses are occurring.

The present infestation cannot be controlled, other than by natural factors. Picking up infested trees in and near existing logging shows will salvage material that would otherwise be lost, and in some cases,

may even reduce tree killing locally, but will have little or no significant influence on the overall population level. Future tree losses can be minimized, however, in and near sale areas by removing all fresh merchantable material as soon as practical (before May 1) and burning large accumulations of large diameter (10" and above) slash. Recommendations for specific problems in the South Fork of Iron Creek and in the Moyer Creek sale area were covered in the June 11 and October 16 5230 memorandums, respectively.

Because of the widely scattered nature of the infestation and the fact that aerial surveys record past damage rather than recent attacks, accurate trend predictions are difficult to make. A cursory ground examination made in a portion of the South Fork of Iron Creek revealed no newly infested trees, but they are easy to miss. Based on past experience, however, we do not expect this to be indicative of a Forest-wide situation. Our estimate is that the current infestation level will continue to increase in 1970 and the duration of the increase will largely depend on the quality and quantity of favorable breeding material, such as naturally occurring windthrow, snowbreak, and other tree damage scattered throughout the Forest. Douglas-fir beetle populations cannot subsist indefinitely in standing trees. Even the presence of normal logging slash, other than exceptional concentrations in localized areas, contributes very little to these extensive buildups.

Spruce budworm, Choristoneura occidentalis Free.

The spruce budworm in Douglas-fir and true firs remains at a relatively low level for the third consecutive year. The only area maintaining repeated defoliation during this period is in the Idaho Primitive Area. No visible activity was detected in Panther and Yellowjacket Creeks, but several new areas of light defoliation showed up in the north portion of the Forest. The largest single area of continuous defoliation (light) is in the southernmost portion of the east half of the Salmon District. A chronological breakdown of the extent of budworm activity by defoliation class during the past six years follows:

	Defoliation Intensity			
Year	Light (Acres)	Medium (Acres)	Heavy (Acres)	Total (Acres)
1964	64,000	320,000	958,000	1,342,000
1965	296,500	77,400	336,000	709,900
1966	495,700	25,900	-	521,600
1967	25,600	-	-	25,600
1968	42,640	280	-	42,920
1969	47,700	-	-	47,700

It should be pointed out here that the slight increase in infested acreage from 1967 to the present does not necessarily mean a real or actual increase in insect distribution or abundance. This difference may be due entirely to variation in aerial survey techniques. Visible tree damage, as recorded from the air, varies with the year and season, the time of day, aspect, host type, available light, shoot elongation, age of infestation, larvae abundance, air turbulence, and other factors. Relatively accurate damage and insect abundance surveys can only be made from the ground.

Systematic egg mass surveys were made in four areas during fall of 1969 to provide an estimation of the degree of defoliation that can be expected in 1970 and to detect any large population changes. All areas had a low egg mass density indicating that only negligible to light defoliation will occur in 1970. Neither is there reason to suspect at this time an increase in infested area. Both intensity and extent of defoliation will remain essentially unchanged and no serious damage will be incurred by any of the host trees.

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